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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,524	11/05/2003	Koubun Sakagami	R2184.0272/P272	5931
24998	7590	10/10/2006		
DICKSTEIN SHAPIRO LLP 1825 EYE STREET NW Washington, DC 20006-5403			EXAMINER GOMA, TAWFIK A	
			ART UNIT 2627	PAPER NUMBER

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/700,524	SAKAGAMI, KOUBUN	
	Examiner	Art Unit	
	Tawfik Goma	2627	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/05/2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

**DETAILED ACTION**

***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Powelson (US 6940790).

Regarding claims 1 and 13, Powelson discloses an information recording/reproducing apparatus, comprising: a binary/multi-level data converting unit converting binary data into multi-level data (404, fig. 4a, and fig. 4b); a test data generating unit generating test data forming part of the multi-level data (202, fig. 2 and col. 10 lines 21-25); a data recording unit recording the multilevel data including the test data to an information recording medium (408, fig. 4a, 4b and col. 10 lines 21-25); a signal reproducing unit outputting reproduction signals of the multi-level data including the test data from the information recording medium (208, fig. 5); a test data examining unit examining the reproduction signals of the multi-level data including the

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test data to determine whether the test data is normal (820, fig. 8a and col. 22 lines 7-18); a waveform equalization unit equalizing a waveform of the examined test data when the test data examining unit determines that the test data is normal (col. 12 lines 61-67 thru col. 13 lines 1-5); and a multi-level determining unit determining multi-level data by referring to a pattern table generated using the examined test data (fig. 4b and col. 13 lines 7-17).

Regarding claim 2, Powelson further discloses wherein the test data examining unit includes: a data distinguishing unit categorizing an input data frame into a test frame including the test data and a data frame (col. 6 lines 50-57); a distribution computing unit computing a frequency distribution of values for the reproduction signals of the test data (fig.7 and col. 16 lines 34-43); a feature amount detection unit detecting a feature amount of the computed frequency distribution (col. 17 lines 11-20); a comparing unit deciding whether the test data is normal by comparing the detected feature amount with a prescribed value (col. 21 lines 46-51); and a memory unit storing the values of the reproduction signals of the test data (col. 16 lines 44-49).

Regarding claim 3, Powelson further discloses wherein when the data distinguishing unit determines that the input data frame is the test frame, the waveform equalizing unit and the multi-level determining unit stop operating, the distribution computing unit starts computing the frequency distribution of the values for the reproduction signals of the test data, and the memory unit stores the test data (fig 8b).

Regarding claim 4, Powelson further discloses wherein when the comparing unit decides that the test data is normal, effective data in the memory unit is output to the

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waveform equalization unit for determining a coefficient of a filter of the waveform equalization unit according to automatic equalization algorithm, and the effective data is also output to the multi-level data determining unit for generating the pattern Table (col. 12 lines 42-67 thru col. 13 lines 1-17).

Regarding claim 5, Powelson further discloses wherein the multi-level data determining unit includes: a pattern table generating unit generating the pattern table; and a multi-level data detecting unit detecting the multi-level data by searching through the pattern table for a pattern which is similar to effective data in the memory unit (fig. 4b and col. 6 lines 58-67 thru col. 7 lines 1-4).

Regarding claim 6, Powelson further discloses wherein when the test data examining unit determines that the test data is normal, the multi-level data detecting unit outputs the effective data in the memory unit as multi-level data (figs. 8a-b).

Regarding claim 7, Powelson further discloses wherein when the comparing unit decides that the test data is abnormal, the test data from the information recording medium is examined again and input to the distribution computing unit (820-822, fig. 8a)

Regarding claim 8, Powelson further discloses wherein the test data is not used when the test data is again decided to be abnormal (822, fig. 8a).

Regarding claim 9, Powelson further discloses wherein one or more test data from the information recording medium is examined, wherein when the feature amount of the test data surpasses a prescribed range, the value of the reproduction signals of the test data surpassing the prescribed range is excluded (824, fig. 8a), wherein an

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average of the values of the reproduction signals of the test data except for the excluded test data is obtained for detecting the multi-level data (col. 22 lines 37-40).

Regarding claim 10, Powelson further discloses wherein the test data is allocated before and after the multi-level data (col. 10 lines 21-32).

Regarding claims 11 and 14, Powelson further discloses wherein the test data includes combinations of data comprising same numeric series (col. 8 lines 30-34).

Regarding claims 12 and 15, Powelson further discloses wherein the test data includes combinations of data comprising different numeric series (col. 8 lines 42-46).

### ***Conclusion***

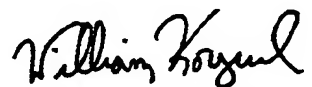
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tawfik Goma whose telephone number is (571) 272-4206. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
T. Goma  
8/30/2006

  
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